

ABSTRACT

It is possible to control a direct current intermediate voltage to be constant, without using a regenerative resistor and an apparatus for feeding back regenerative energy to a power supply, and thus to stably and continuously drive an alternating current motor even at the time of a power failure.

A method of controlling the alternating current motor includes the steps of: allowing a power failure detecting unit provided in a power converter to detect a power failure of an alternating current power source; outputting a deceleration start instruction to the inverter unit; calculating a first reduction rate, on the basis of a detection value and a target value of the direct current intermediate voltage, such that the direct current intermediate voltage is made constant during the deceleration of the alternating current motor; calculating a second reduction rate on the basis of a variation in the direct current intermediate voltage; calculating a torque instruction to allow the alternating current motor to be decelerated for a deceleration time; changing an electromotive torque limit value and a regenerative torque limit value on the basis of the value of the detected direct current intermediate voltage; stopping the

deceleration when the direct current intermediate voltage is equal to a voltage before the power failure is detected or it rises during the deceleration; and when the alternating current motor is returned to a normal control mode, storing an output frequency before the power failure is detected.